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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,218	01/31/2002	Koichi Kasahara	111863	6023

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

ILDEBRANDO, CHRISTINA A

ART UNIT PAPER NUMBER

1725

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,218

Applicant(s)

KASAHARA ET AL.

Examiner

Christina Ildebrando

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)⁴
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lampert et al.

Lampert et al. (US 6,074,973) discloses a catalyzed hydrocarbon trapping material useful in the treatment of exhaust gases. The hydrocarbon trap material comprises an inorganic oxide material, a zeolite, palladium and silver coated on a substrate material (column 4, lines 40-55). Suitable zeolites include beta zeolite (column 4, line 68 – column 5, line 1). It is taught that the weight ratio of inorganic metal oxide to zeolite may be from about 5:1 to 1:5 (column 5, lines 34-38). The use of alumina as the inorganic metal oxide is exemplified (column 14, Example 8).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Lampert et al.

3. Claims 3-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al.

Yamamoto et al. (US 6,047,544) discloses a catalyst composition useful in the purification of exhaust gases. The reference teaches a catalyst composition comprising a monolithic substrate, a first layer comprising a zeolite hydrocarbon adsorbent formed

on the substrate, and a catalyst layer comprising any one of palladium, platinum, and rhodium as a three-way catalyst (column 1, line 62 – column 2, line 5). Specifically, Yamamoto et al. teaches a catalyst composition comprising a substrate, a hydrocarbon adsorbent layer comprising zeolite beta, a second layer comprising palladium, cerium oxide, and alumina, and a third layer comprising rhodium, alumina, and cerium oxide (column 5, lines 35-50 and column 7, line 62 – column 8, line 12). It is taught that platinum may be added to either the second or third layer (column 6, lines 65-68).

In an example, Yamamoto et al. teaches the preparation of a catalyst adsorbent comprising a cordierite monolithic substrate, a first hydrocarbon adsorbent layer comprising a mixture of beta zeolite and ZSM-5, a second layer containing palladium, cerium oxide, and alumina formed on the surface of the first layer, and a third layer containing platinum, rhodium, alumina, and zirconia, formed on the second layer (column 17, Sample #17).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Yamamoto et al.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mussman et al.

Mussman et al. (US 6,080,375) discloses a catalyst composition useful in the purification of exhaust gases. The catalyst composition comprises two functional layers applied to a support (column 3, lines 25-26). The first layer, applied to the support, comprises a mixture of a first catalyst and a first zeolite and the second layer, applied on the first layer, comprises a second catalyst and a second zeolite (column 3, lines 25-35). At least palladium and rhodium are present and are each contained separately from each other in only one of the two catalysts (column 30-45).

It is taught that the zeolites function to adsorb hydrocarbons (column 3, lines 45-50). Suitable zeolites include ZSM-5 and dealuminated zeolite Y (column 4, lines 55-60).

It is taught that the catalysts in the first and second layers contain active aluminum oxide as a support material (column 4, lines 25-35). It is further taught that that the catalysts in the first and second layers may additionally contain active aluminum oxide, cerium oxide, and/or zirconium oxide, free of platinum group metals, in an amount in the range of 0-90% by weight of the catalysts (column 4, lines 40-49). It is taught that the weight ratio between the respective catalyst in one functional layer to the zeolite contained therein may be varied within the range of 1:5 to 5:1 (column 4, lines 50-55).

The reference differs from the claims in that the reference does not specifically a weight ratio of alumina and zeolite in the coating (i.e. second layer) to be in the range of

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from 5:1 to 1:1, as required by claim 1. However, the composition of the layers disclosed teaches amounts of alumina and zeolite which would overlap the ranges instantly claimed. With respect to the encompassing and overlapping ranges previously discussed, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time of invention to select the portion of the prior art's range which is within the range of the applicants' claims because it has been held prima facie case of obviousness to select a value in a known range by optimization for the results. *In re Boesch*, 205 USPQ 215. Additionally, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mussman et al. as applied to claims 1-2 and 5-8 above, and further in view of Yamamoto et al.

Mussman et al. is applied as described above for claims 1-2 and 5-8.

The reference further does not teach that the zeolite is a beta zeolite, as required by claim 10.

Yamamoto et al. (US 6,047,544) discloses an exhaust gas purification catalyst comprising a zeolite hydrocarbon adsorbent layer (column 1, lines 65-68). It is taught that suitable zeolites include zeolite beta, ZSM-5, Y zeolite, or USY having a Si/2Al of 10-500 (column 6, lines 30-50).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the catalyst taught by Mussman et al. to include zeolite beta in light of the teachings of Yamamoto et al. Yamamoto et al. teaches that zeolite beta is functionally equivalent and analogous to the zeolites taught by Mussman et al. in the purification of exhaust gases, giving one of ordinary skill motivation to substitute zeolite beta for the zeolites taught by Mussman et al., with a reasonable expectation of success.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Ildebrando whose telephone number is (703) 305-0469. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

CAI

June 24, 2003

